

REVIEWS

Some Recent University of California Publications*

The first ten numbers of volume 4 of the "University of California Publications in Botany" represent a considerable variety as to subject matter, with, however, a decided preponderance, so far as the titles are concerned, of papers relating to the marine algae of the Pacific Coast.

Dr. H. M. Hall's "Studies in ornamental trees and shrubs" includes descriptions and illustrations of some of the more common and desirable of the cultivated ornamental trees and shrubs of California. There is probably no state in the Union in which cultivated, largely exotic, trees and shrubs are relatively so conspicuous to the casual visitor, at least, as in California, and any paper that assists in their identification will be welcomed by many. The species treated are largely of Australian and New Zealand origin and many are of the genera *Pittosporum*, *Hakea*, *Callistemon*, and *Melaleuca*. The species of *Eucalyptus*, of which about 100 are said to be cultivated in California, are omitted, whether because they are not considered sufficiently ornamental or because they are held to be adequately treated elsewhere

- *Hall, H. M. Studies in ornamental trees and shrubs. Univ. California Publ. Bot. 4: 1-74. pl. 1-11 +f. 1-15. 19 Mr 1910.
 Wilson, H. L. *Gracilariophila*, a new parasite on *Gracilaria confervoides*. *Loc. cit.* 4: 75-84. pl. 12, 13. 26 My 1910.
 Brandegee, T. S. Plantae Mexicanae Purpusianae, II. *Loc. cit.* 4: 85-95. 26 My 1910.
 Gardner, N. L. *Leuvenia*, a new genus of flagellates. *Loc. cit.* 4: 97-106. pl. 14. 26 My 1910.
 Setchell, W. A. The genus *Sphaerosoma*. *Loc. cit.* 4: 107-120. pl. 15. 26 My 1910.
 Gardner, N. L. Variations in nuclear extrusion among the Fucaceae. *Loc. cit.* 4: 121-136. pl. 16, 17. 26 Au 1910.
 McFadden, A. S. The nature of the carpostomes in the cystocarp of *Ahnfeldtia gigartinoïdes*. *Loc. cit.* 4: 137-142. pl. 18. 25 F 1911.
 McFadden, M. E. On a *Colocodasya* from southern California. *Loc. cit.* 4: 143-150. pl. 19. 25 F 1911.
 Hoffman, E. J. Fructification of *Macrocystis*. *Loc. cit.* 4: 151-158. pl. 20. 25 F 1911.
 Twiss, W. C. *Erythrophyllum delesserioides* J. Ag. *Loc. cit.* 4: 159-176. pl. 21-24. 8 Mr 1911.

seems not to be definitely stated by the author. Presumably, however, the implication of incompleteness in the modest title is a sufficient explanation of the absence of the eucalyptus and certain others.

Harriet L. Wilson's paper on "*Gracilariophila*, a new parasite on *Gracilaria confervoides*" describes the structure and development of a small red alga that is parasitic on a larger red alga to which it appears to be closely related. The parasite forms on the surface of the *Gracilaria* colorless tubercles resembling adherent particles of sand or small grains of rice. Three sorts of tubercles, antheridial, cystocarpic, and tetrasporic, distinguishable from each other only under the microscope, occur. Rhizoidal processes penetrate the host plant and evidently serve not only for attachment but for drawing nourishment from the host. The parasite is described as *Gracilariophila oryzoides* Setchell & Wilson, new genus and species, and is referred to the same suborder to which its host belongs.

In "Plantae Mexicanae Purpusianae, II," Mr. T. S. Brandegee describes twenty-two new species of spermatophytes, nearly all collected by Dr. C. A. Purpus in the state of Puebla, near the boundary line of Oaxaca, Mexico. One of the species represents a new genus, *Amphorella*, of the Asclepiadaceae.

Dr. N. L. Gardner, in his paper on "*Leuvenia*, a new genus of flagellates," describes and figures in much detail the structure and development of a curious microscopic fresh-water organism, the affinities of which are uncertain. Specimens of the organism had been distributed in the Phycotheca Boreali-Americana under the name *Osterhoutia natans*, but, learning that the name *Osterhoutia* had been previously given to a genus of spermatophytes, Dr. Gardner avails himself of another one of Professor W. J. Van Leuven Osterhout's names in coining the substitute generic name *Leuvenia*.

Professor Setchell, as would appear from his paper on "The genus *Sphaerosoma*," was led by a study of a Californian ascomycetous fungus, at first supposed to be an undescribed species of *Sphaerosoma*, to a critical review of the pertinent literature and the available specimens referred to this genus. Among his

results are the restriction of the generic name *Sphaerosoma* to two (or three?) already published European and American species and the description of the Californian plant as *Ruhlandiella hesperia* sp. nov.

Dr. N. L. Gardner's paper on "Variations in nuclear extrusion among the Fucaceae" sets forth the results of a study of the formation of the oöospheres in the commoner Californian representatives of the rockweed family. Decaisne and Thuret, in a paper published in 1845, were pioneers in a comparative study of the number of oöospheres to an oögonium in the Fucaceae, and as one of the results of their researches defined four genera having their respective numbers of oöospheres in a beautiful geometrical series: *Cymaduse* (= *Bifurcaria*) with one oöosphere to the oögonium, *Pelvetia* with two, *Ozothallia* (= *Ascophyllum*) with four, and *Fucus* with eight. Gardner finds that some of the Californian Fucaceae do not fit into this scheme very well. In the plant that has been known as *Fucus Harveyanus* eight nuclei are formed by divisions of the original oögonium nucleus, but only two oöospheres are developed; these are of very unequal size, the larger containing a single large nucleus and the smaller seven small nuclei. It is presumed that only the larger oöosphere is capable of fertilization. Chiefly on these grounds, *Fucus Harveyanus* is considered the type of a new genus *Hesperophycus* Setchell & Gardner. In a somewhat similar way, while the typical *Pelvetia fastigiata* of California agrees essentially with the European *Pelvetia canaliculata* in forming two practically equal oöospheres to an oögonium, the plant that has been known as *Pelvetia fastigiata* forma *limitata* Setchell produces two very unequal oöospheres, which had led to assigning it to a new genus *Pelvetiopsis* Gardner. These results suggest to the reviewer the possibility that similar accurate investigations of the number and character of the oöospheres of the remaining Fucaceae of the world might lead to discovery of grounds for several other similar generic segregations and that a large number of genera thus based might prove rather impracticable and unnatural. But there is scarcely more ground for disputing about genera than about tastes and it would certainly be premature to venture any

very positive judgment in the matter until the facts in the case are all known.

The title of Ada Sara McFadden's paper "The nature of the carpostomes in the cystocarp of *Ahnfeldtia gigartinoides*" gives a fair idea of the subject matter of her brief dissertation. The peculiar openings of the cystocarp of this marine red alga are said to average as many as forty-two to a cystocarp. They are possibly formed by decomposition. Incidentally, the author sets forth the ample grounds for considering the Pacific American *Ahnfeldtia gigartinoides* specifically distinct from *Ahnfeldtia concinna*, originally described from Hawaii.

In continuation of the notable studies of parasitic red algae being made at the University of California, Mabel Effie McFadden publishes as her thesis for the degree of master of science a paper "On a *Colacodasya* from southern California." The paper is devoted to describing and figuring *Colacodasya verrucaeformis* W. A. Setchell and M. E. McFadden, sp. nov., parasitic on *Mychodea episcopalis* J. Ag. This parasite was first detected by Professor W. G. Farlow, but the description is based on abundant material collected later at San Pedro by Dr. N. L. Gardner.

Edna Juanita Hoffman, in her account of the "Fructification of *Macrocystis*," describes the character of the fertile leaves and the nature of the sori of Californian and Peruvian specimens of the Great Kelp—*Macrocystis pyrifera*. In Californian plants the sporangia occur on basal leaves differing from the upper leaves in the absence of bladders or in the possession of a branching blade. In Peruvian specimens collected by D. G. Fairchild in 1899, sori are found on leaves of about the ordinary type. In neither do the reproductive bodies occur in "furrows," as described in 1895 by Misses Smith and Whitting.

The main results of the study of "*Erythrophyllum delesserioides* J. Ag." by Mr. Wilfred Charles Twiss is that the plant belongs among the Gigartinaceae, where originally placed by J. Agardh, instead of among the Dumontiaceae to which it was doubtfully referred by Schmitz in "Die natürlichen Pflanzenfamilien" of Engler and Prantl. Mr. Twiss thus confirms the opinion ex-

pressed by Professor Setchell in 1899 in distributing mature specimens of *Erythrophyllum* in the Phycotheca Boreali-America. It appears that *E. delesserioides* J. Ag. (1871) was based upon a fragment of a young sterile plant, while the later *Polyneura californica* J. Ag. (1899) was described from older, mostly fertile, representatives of the same species. MARSHALL A. HOWE.

NEWS ITEMS

Professor W. Johannsen of the University of Copenhagen is to give in October and November a course of lectures and seminar conferences on "Modern Conceptions of Heredity," at Columbia University. These will be under the joint auspices of the departments of botany and zoölogy, and will consist of four public lectures on October 13, 20, 27, and November 3. Eight seminars of a more technical nature will be open to a limited group of investigators. The latter will be more fully announced later.

Dr. F. J. Collins has resigned as assistant professor of botany at Brown University to accept a position in the Bureau of Plant Industry as forest pathologist.

Miss Jean Broadhurst of Teachers College, and manager of the department "Of Interest to Teachers" in TORREYA, is spending the summer in England. Dr. Philip Dowell, editor of the BULLETIN, is at the United States National Herbarium.

At the New York Botanical Garden the following lectures will complete the summer course: August 12, "The Paris Botanical Garden," by W. A. Murrill; August 19, "A Visit to the Panama Canal Zone," by M. A. Howe; August 26, "Evergreens: Their Uses in the Landscape," by G. V. Nash.

The Brooklyn Institute Museum herbarium has recently unearthed from storage several thousand sheets of material dating all the way from 1818 to 1876. These specimens are now mounted and will soon be incorporated in the regular series of the herbarium. It is worthy of note that some of this was collected by Torrey, Cooper, and L. C. Beck.

Dr. N. L. Britton, director of the New York Botanical Garden, sailed for Europe on August 9, to continue studies on the West Indian flora.